

SUBSTANCE ABUSE ,TYPES OF ADDICTION & ITS MEDICAL AND PSYCHIATRIC EFFECTS.



Do drugs control
YOUR LIFE?

**Your life. Your community.
No place for drugs.**

Dr. ANEESH S BHAT, Professor & HOD, Dept. of Psychiatry, MIMER Medical college.

What are substance/drugs?

- Drugs are chemical substances that change the way people feel, think and behave.
- Technically, drugs are chemical substances that alter or affect the function of the body.
- Therefore, medicines are drugs, as are cigarettes, coffee and alcohol.
- However, here we are focusing on the drugs we cannot buy in a shop, that is, illegal drugs.

Difference between medicines and drugs?

- People take medicines if, for example, they have a headache or an illness like bronchitis.
- Medicines are legal, which means that you can get them through a doctor or buy them in a supermarket or a pharmacy with prescription.
- But when people use drugs, they are generally healthy and do so to forget their problems, feel happy and stay awake longer, among other things. Drugs are illegal, which means that if you get caught, the police will be involved and you might face criminal charge

Which Drugs are commonly abused.

- Alcohol
- Nicotine
- Cannabis
- Opiates
- Inhalants and Solvents
- Amphetamine-type stimulants (ATS)
- Coca/cocaine
- Hallucinogens like LSD.
- Sedative hypnotics.

ICD 10 CLASSIFICATION

- F10 - F19 Mental and behavioural disorders due to psychoactive substance use Overview of this block
- F10. – Mental and behavioural disorders due to use of alcohol
- F11. – Mental and behavioural disorders due to use of opioids
- F12. – Mental and behavioural disorders due to use of cannabinoids
- F13. – Mental and behavioural disorders due to use of sedative hypnotics
- F14. – Mental and behavioural disorders due to use of cocaine
- F15. – Mental and behavioural disorders due to use of other stimulants, including caffeine
- F16. – Mental and behavioural disorders due to use of hallucinogens
- F17. – Mental and behavioural disorders due to use of tobacco
- F18. – Mental and behavioural disorders due to use of volatile solvents
- F19. – Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances

DEPENDANCE CRITERIA

- A definite diagnosis of dependence should usually be made only if three or more of the following have been present together at some time during the previous year:
 - (a) a strong desire or sense of compulsion to take the substance;
 - (b) difficulties in controlling substance-taking behaviour in terms of its onset, termination, or levels of use;
 - (c) a physiological withdrawal state (see F1x.3 and F1x.4) when substance use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms;
 - (d) evidence of tolerance, such that increased doses of the psychoactive substances are required in order to achieve effects originally produced by lower doses (clear examples of this are found in alcohol- and opiate-dependent individuals who may take daily doses sufficient to incapacitate or kill nontolerant users);

- (e) progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to recover from its effects;
- (f) persisting with substance use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to periods of heavy substance use, or drug-related impairment of cognitive functioning; efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.

You need to know

- **Substance Abuse :-**
- FAILURE TO FULFIL MAJOR SOCIAL ROLE OBLIGATIONS
- USE IN PHYSICALLY HAZARDOUS SITUATIONS.
- LEGAL PROBLEMS
- PERSISTENT IP AND SOCIAL PROBLEMS

□ Substance dependence:-

□ TOLERANCE

□ WITHDRAWAL

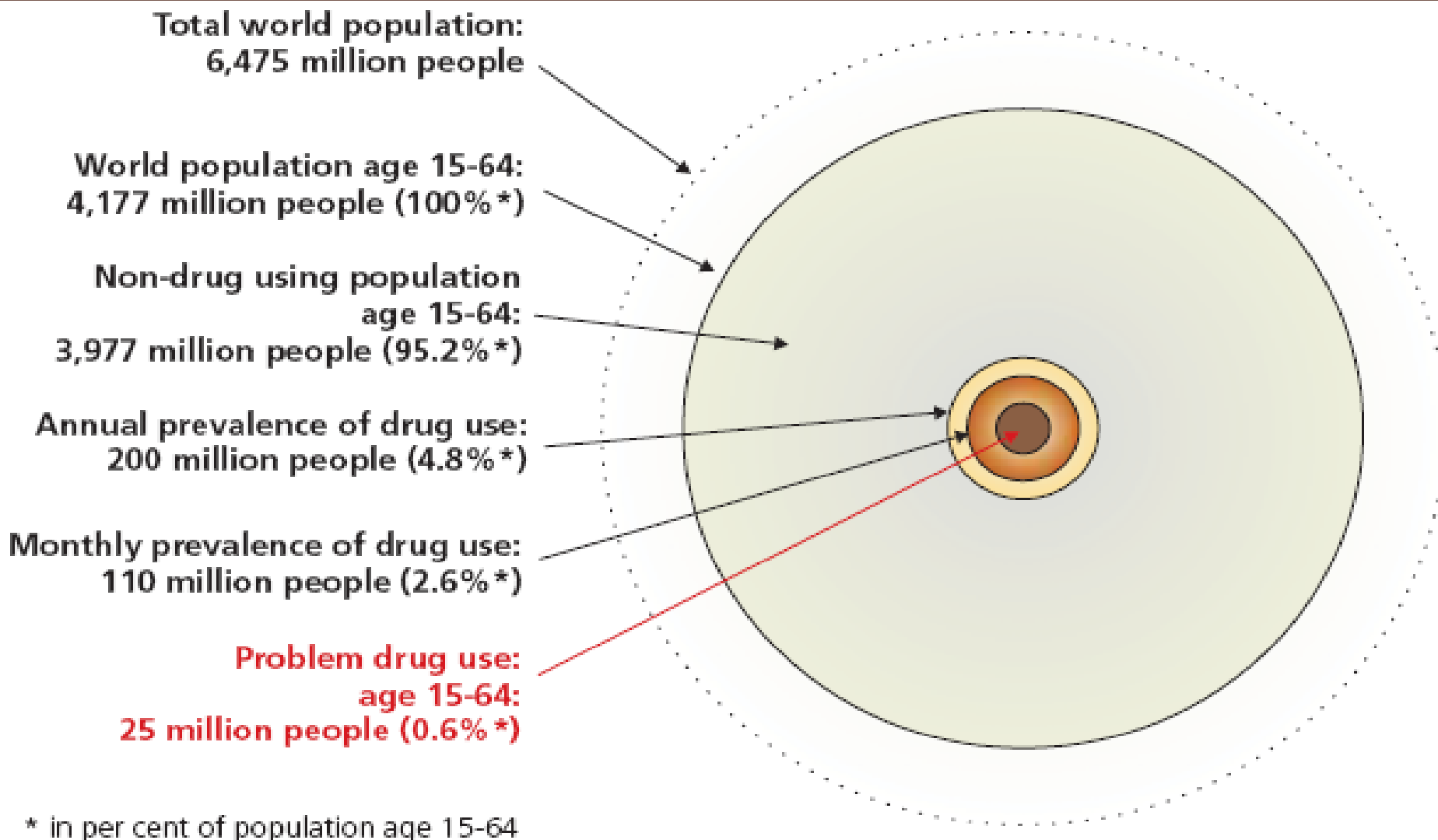
□ TAKEN IN LARGE AMOUNT/FOR A LONG PERIOD.

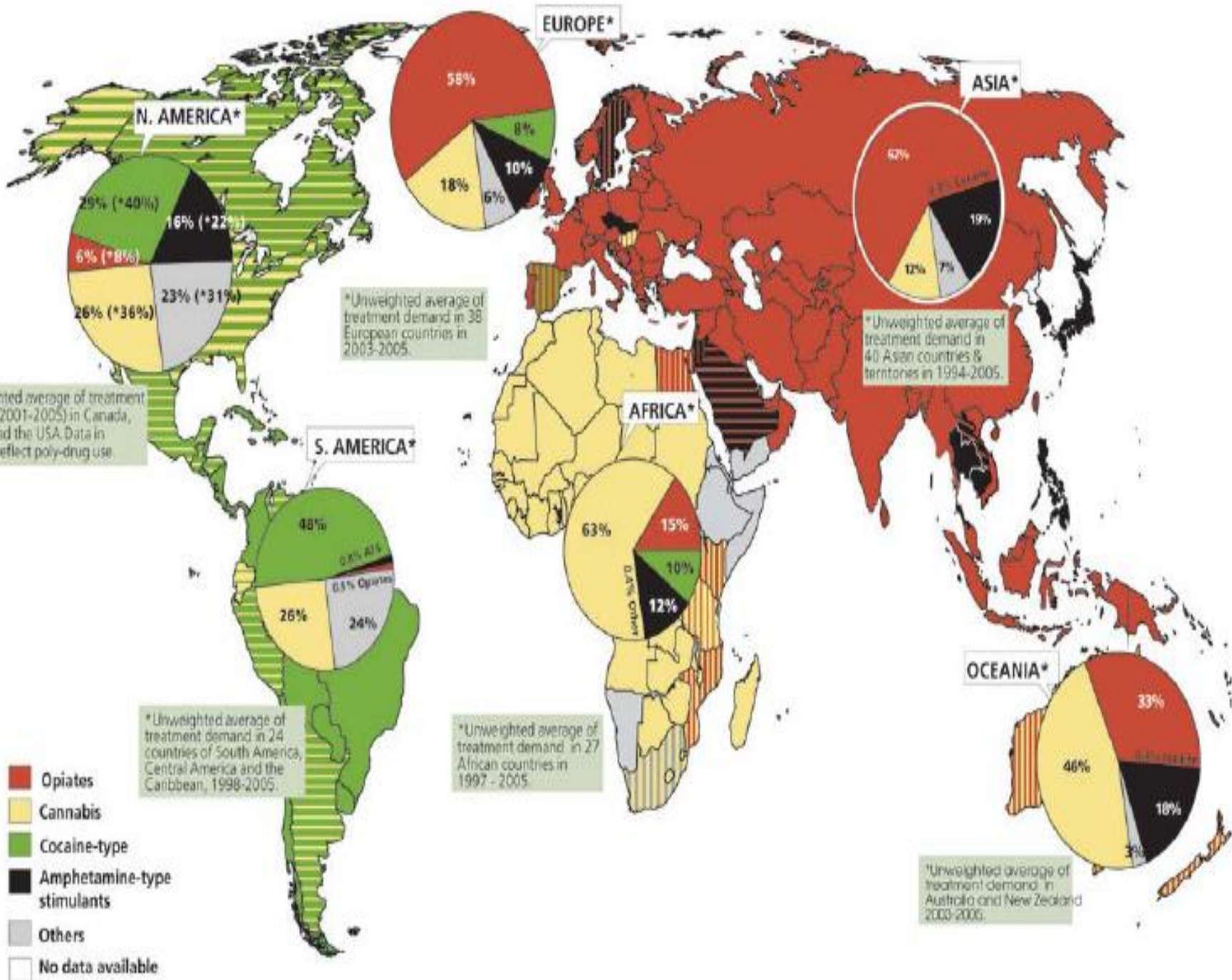
□ PERSISTENT DESIRE (craving).

□ UNSUCCESSFULL ATTEMPT TO CUT DOWN.

- Nearly 200 MILLION PEOPLE ARE USING THESE DRUGS WORLDWIDE.

Illegal drug use at the global level



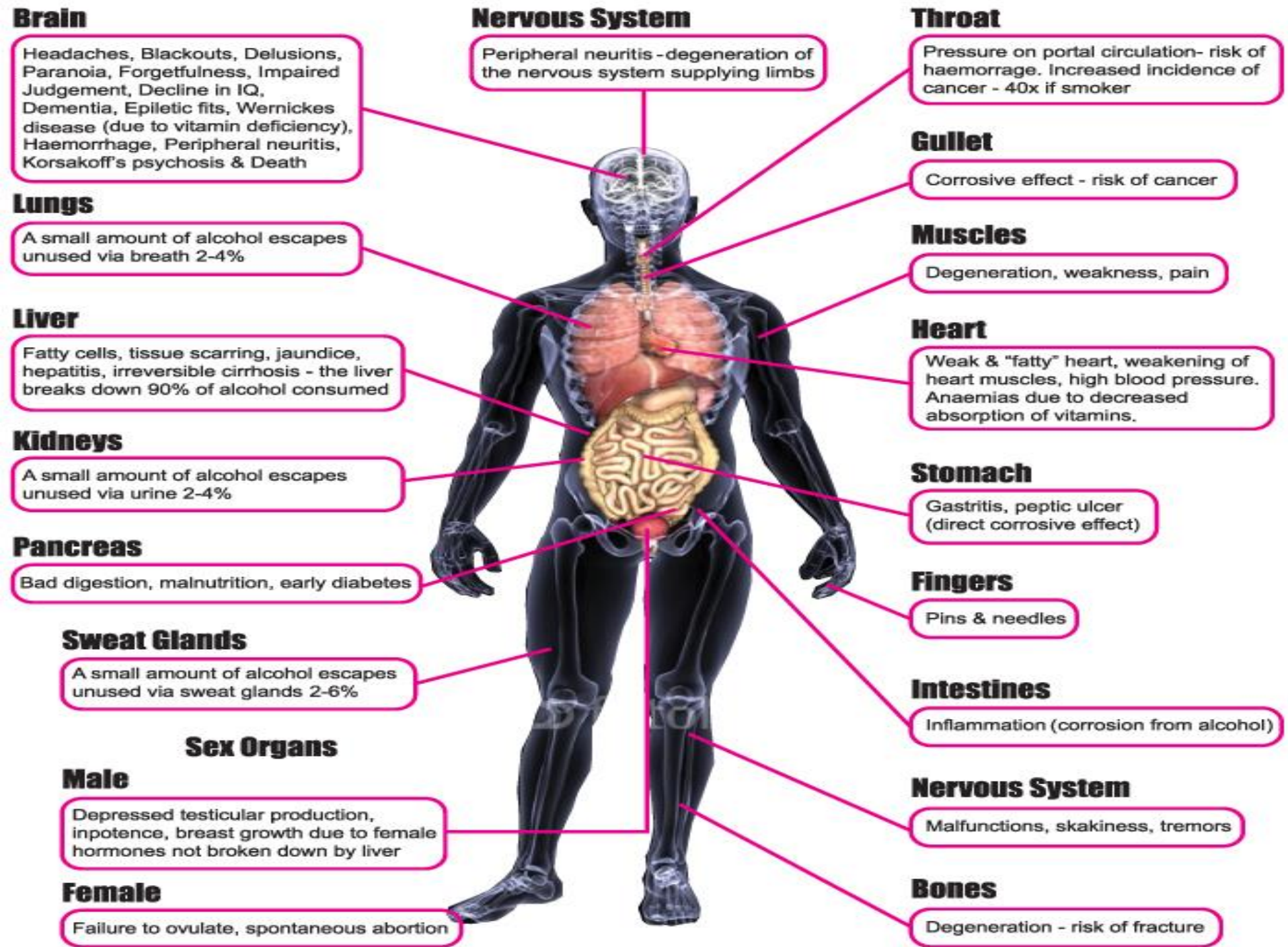


ALCOHOL



EFFECTS ON THE CENTRAL NERVOUS SYSTEM

Blood Alcohol Concentration	Effects
0.05% to 0.15% (50 to 150 mg)	Loss of inhibition Loss of judgement Decreased mental acuity
0.15% to 0.25% (150 to 250 mg)	Slurred speech Staggering gait
0.25% to 0.35% (250 to 350mg)	Sleep Stupor Coma
Above 0.5% (Above 500 mg)	Death due to depression of respiratory and cardiovascular centres in the brain



The price you pay
stages of alcohol-induced liver damage



Fatty Liver



Deposits of fat causes liver enlargement.

Strict abstinence can lead to a full recovery.

Liver Fibrosis



Scar tissue forms.

Recovery is possible, but scar tissue remains.

Cirrhosis



Growth of connective tissue destroys liver cells.

The damage is irreversible.

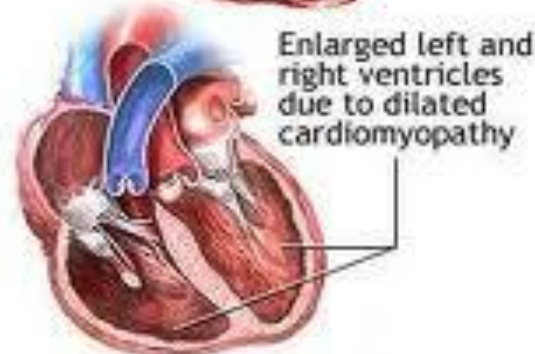


Lung

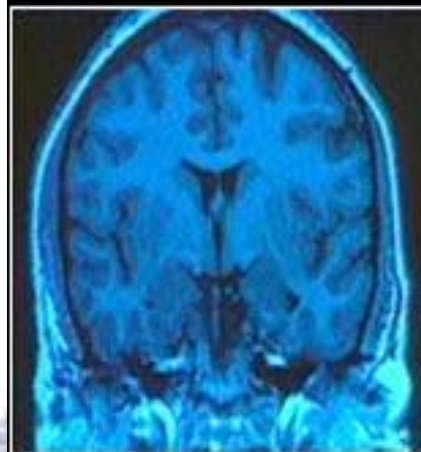
Liver



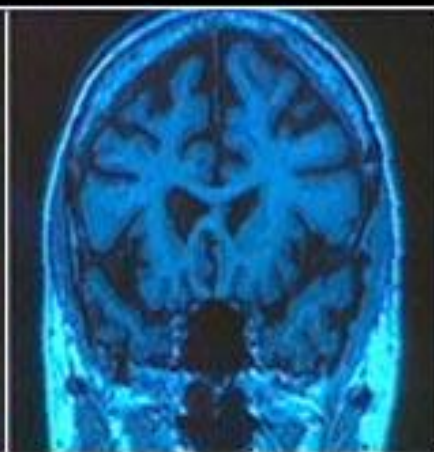
Normal ventricles



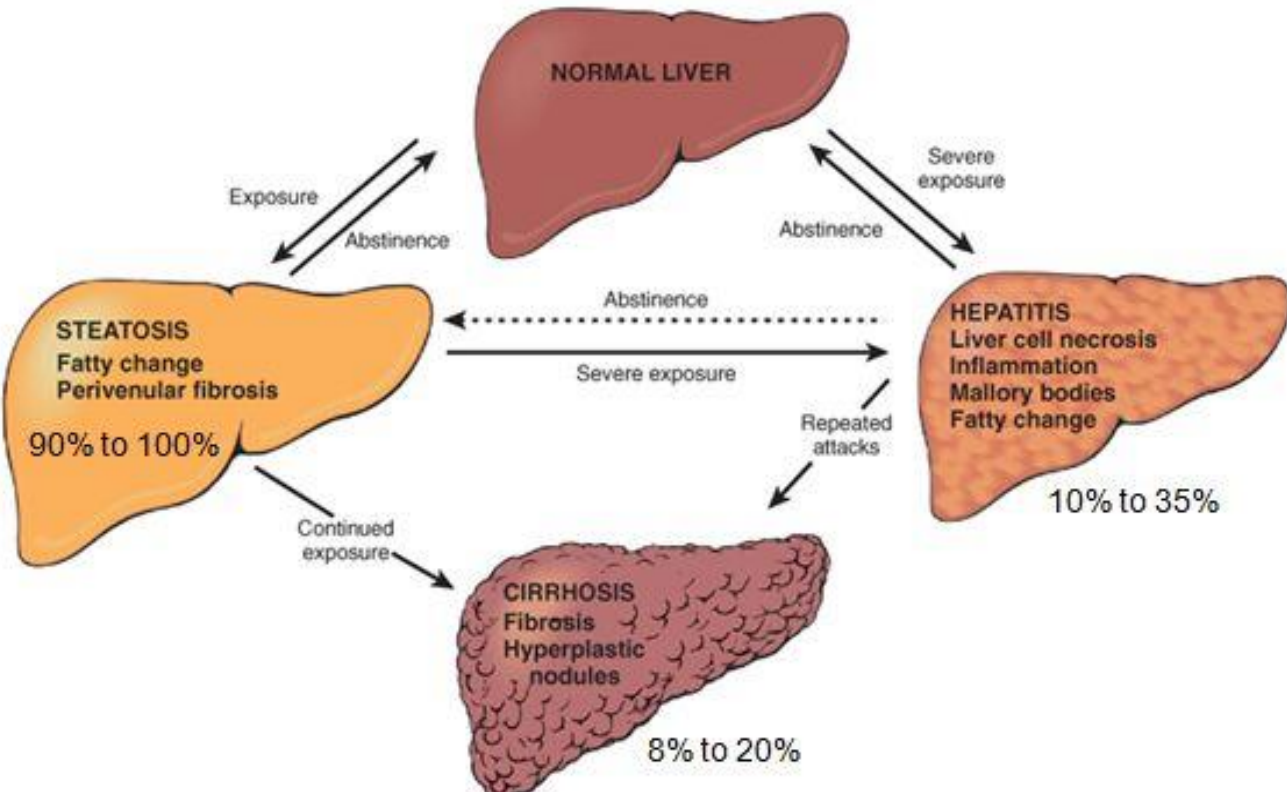
Enlarged left and right ventricles due to dilated cardiomyopathy

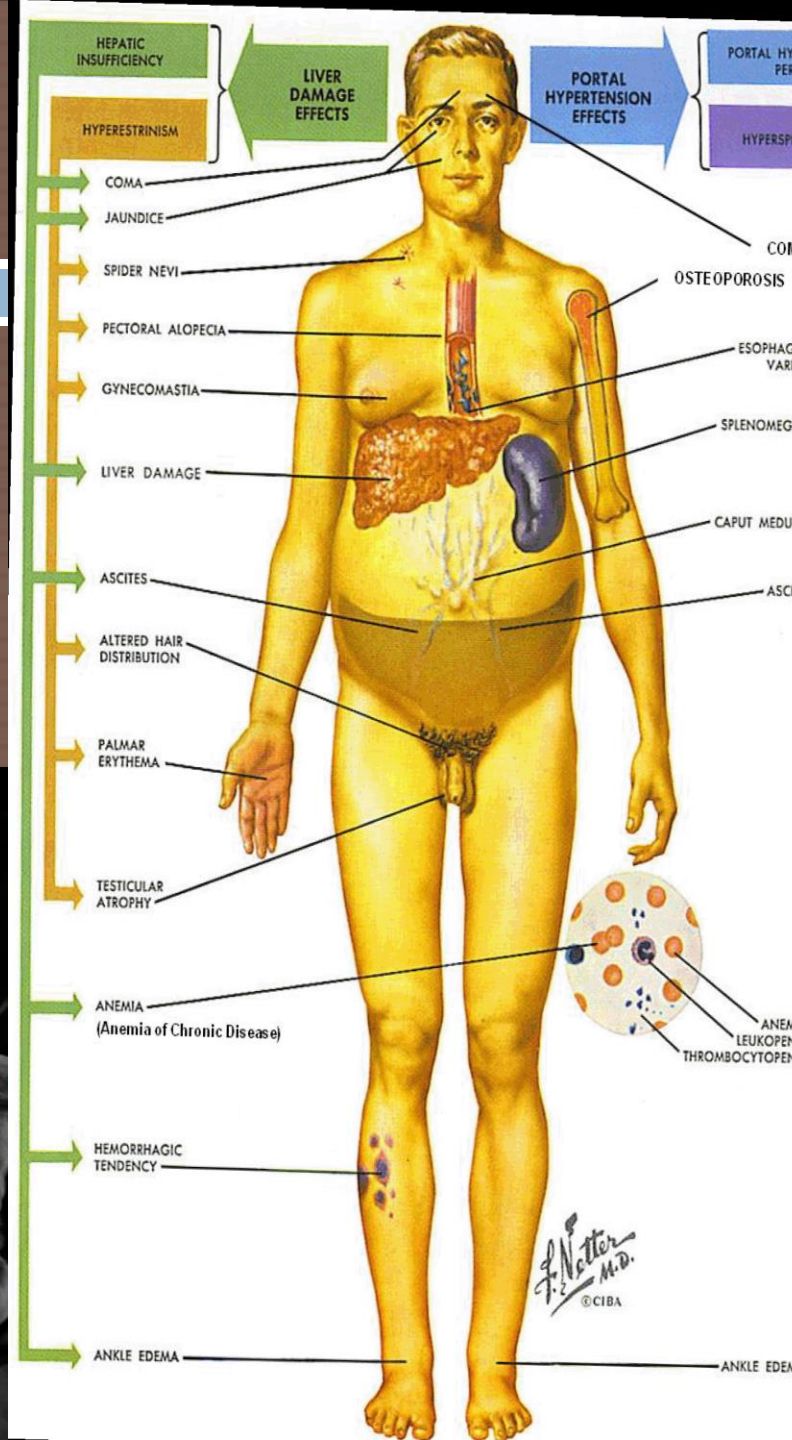
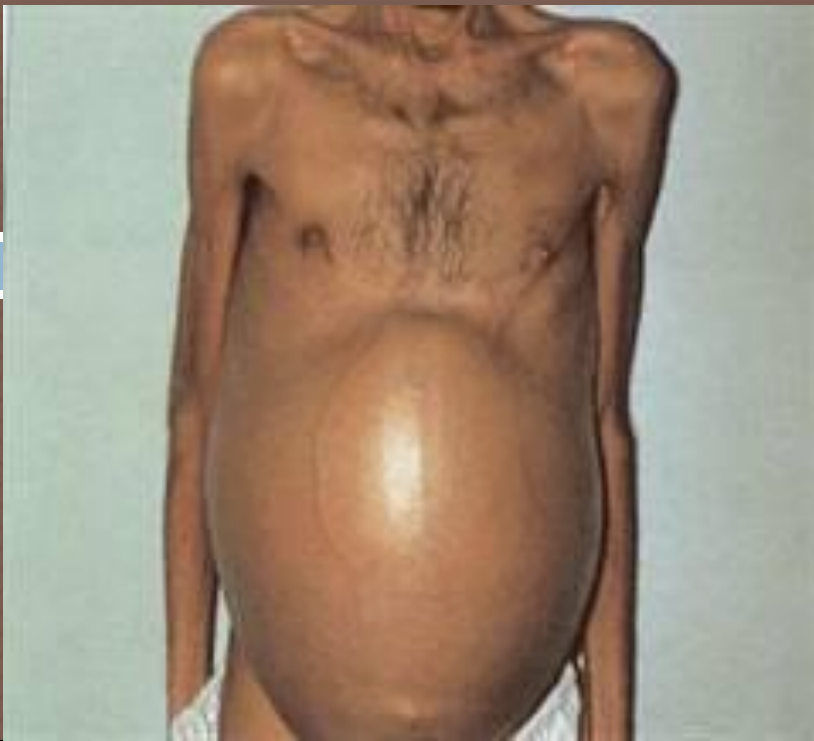


Normal
43-year-old



Alcoholic
43-year-old







Symptoms and Time Course for Alcohol Withdrawal Syndrome

6 to 12 hours	Minor withdrawal symptoms: insomnia, tremulousness, mild anxiety, gastrointestinal upset, headache, diaphoresis, palpitations, anorexia
12 to 24 hours*	Alcoholic Hallucinations: auditory, visual, or tactile; normal sensorium
24 to 48 hours†	Withdrawal Seizures: Generalized tonic-clonic seizures
48 to 72 hours‡	Alcohol Withdrawal Delirium/Delirium Tremens: hallucinations (visual), disorientation, tachycardia, hypertension, low-grade fever, agitation, diaphoresis

* - Symptoms generally resolve within 48 hours.

† - Symptoms reported as early as two hours after cessation

‡ - Symptoms peak at five days

Tobacco



GLOBAL ESTIMATE - TOBACCO USE AND DEATH



- Leading cause of death
- Causes more deaths than AIDS, maternal mortality, automobile accidents, homicide and suicide combined
- 4 million people killed in year 2000
- By 2030, 10 million will die each year
- Cause of 1 in 10 adult deaths

TOBACCO USE IN DEVELOPING COUNTRIES

- 80% of the smokers live in developing countries
- Individuals are starting to smoke at an earlier age
- The rate of smoking is increasing
- By 2030, 70% of all deaths from tobacco use will occur in developing countries

TOBACCO SMOKE



- 4000 chemicals present
- Contains 43 cancer causing substances
- Reaches every part of the lungs
- Immediately absorbed into the blood stream
- No single benefit and no safe level of use

Example**Common Use**

Carbon Monoxide

Gas in car exhausts

Copper

Electric wiring

Tar

Road surfaces

Nicotine

Pesticide

Acetone

Paint stripper

Ammonia

Cleaning agent

Arsenic

Rat poison

Benzene

Petrol fumes

Butane

Lighter fuel

Formaldehyde

Embalming fluid

Hydrogen cyanide

Poison in gas chamber

Methanol

Rocket fuel

Methane

Swamp gas

Toluene

Industrial solvent

DDT

Banned insecticide

Radon

Radioactive gas

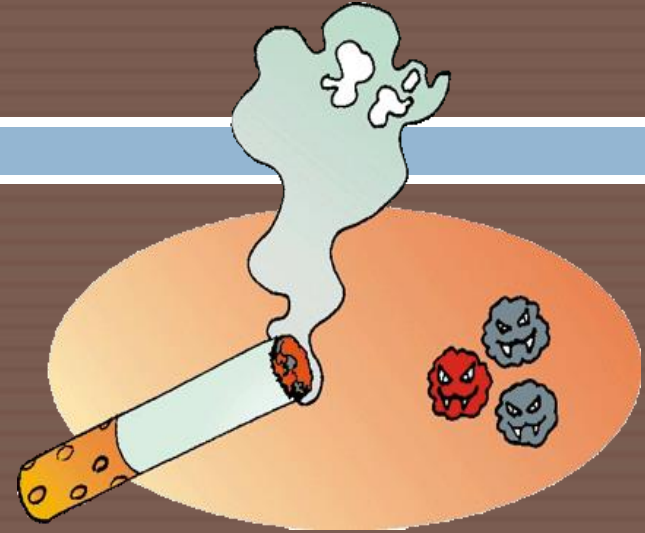
Polonium

Radioactive fallout



NICOTINE

- Addictive substance

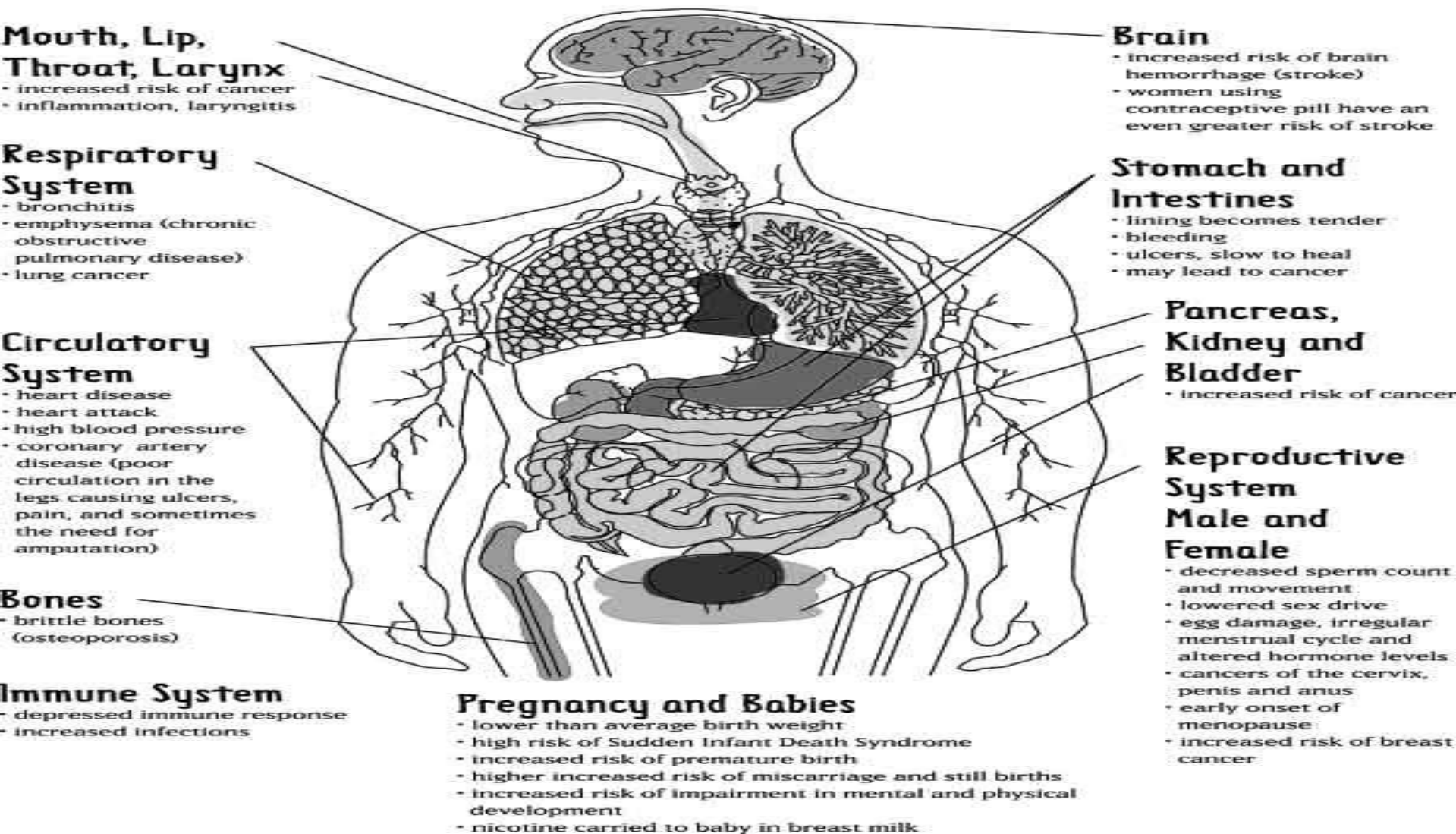


- More addictive than alcohol, heroin or marijuana

- When withheld, withdrawal symptoms set in

Effects of Tobacco/Smoking.

The Long Term Health Effects Of Smoking Tobacco





Smoking
causes fatal lung cancer



Smoking
can cause
a slow
and painful
death



WARNING:
SMOKING CAUSES GANGRENE
QUIT: 1800-438-2000



WARNING:
SMOKING INCREASES MISCARRIAGE
RISK
QUIT 1800-438-2000



WARNING:
SMOKING CAUSES
92% OF ORAL CANCERS
QUIT: 1800-438-2000



WARNING:
SMOKING CAUSES
NECK CANCER
QUIT 1800-438-2000



WARNING:
SMOKING CAUSES MOUTH DISEASES
QUIT: 1800-438-2000



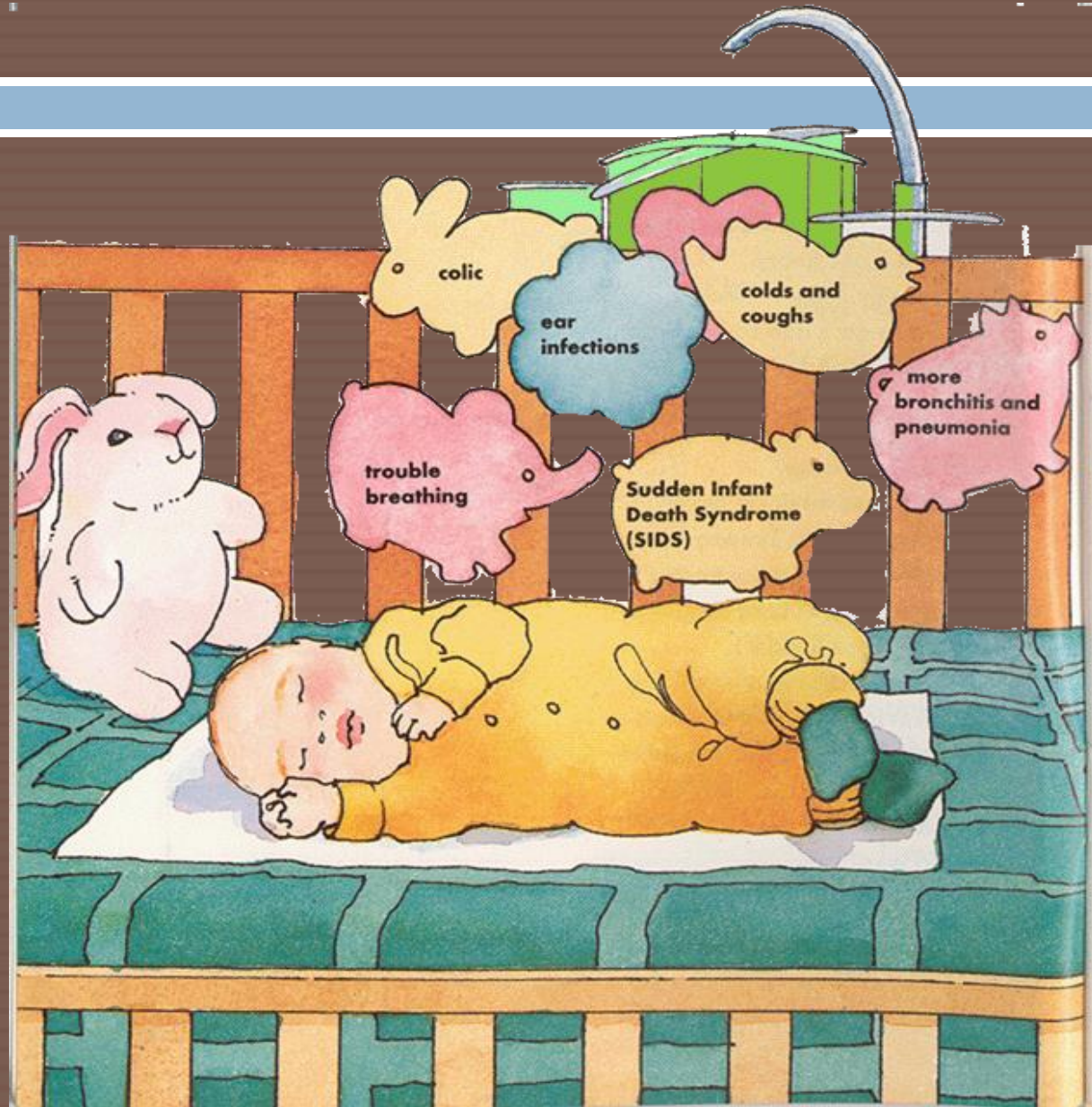
WARNING:
SMOKING CAUSES
92% OF ORAL CANCERS
QUIT: 1800-438-2000

Wayne McClaren and David McClean 'Marlboro Man' died of lung cancer



PASSIVE SMOKING – HEALTH RISKS

- Harms non smokers too
- No safe level of exposure
- Increased risk of cancer, heart disease, respiratory diseases and stroke



He Had Quit Smoking

www.facebook.com/noicantbelieveit

After One Week
Better sense of
smell and taste

After 3 Month
Better the lung 30%

After 8 Hours
Out Extra (CO)
From Your Body

After 1 Year
Save more
than \$ 4000

After 12 Weeks
Your lungs recover the
ability to clean itself

After 1 Year
Less than your
risk of heart
disease to half

After 5 Days
Most of the
nicotine Out
from your body

**EVERY CIGARETTE YOU DON'T SMOKE
IS DOING YOU GOOD**



Cannabis

Bongo/Ganja/Grass/Marijuana/Pot/Thai sticks



CANNABIS

- ◆ Ganja / Marijuana
- ◆ Hashish / Charas
- ◆ Hashish oil
- ◆ Bhang

Common mode of intake :

→ Smoking



SHORT TERM EFFECTS

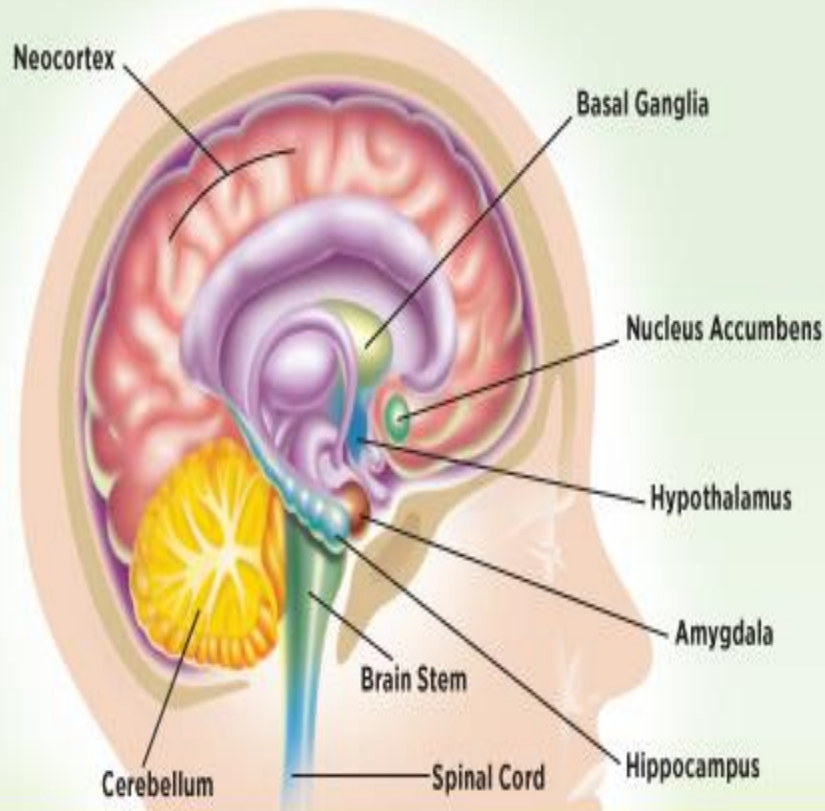
- ◆ Mild euphoria
- ◆ Lowering of inhibitions
- ◆ Dilation of blood vessels
- ◆ Increased auditory and visual acuity
- ◆ Sense of smell, touch and taste are often enhanced
- ◆ Altered sense of time perception
- ◆ Impaired short-term memory
- ◆ Impairment of ability to perform complex motor tasks

LONG-TERM EFFECTS

- ◆ Decreased cognitive ability
- ◆ Amotivational syndrome
- ◆ Psychosis
- ◆ Respiratory problems
- ◆ Sterility / impotence
- ◆ In women abusers, fetal damage can occur



Bodily effects of Cannabis



Eyes:

- Reddening
- Decreased intra-ocular pressure

Mouth:

- Dryness

Skin:

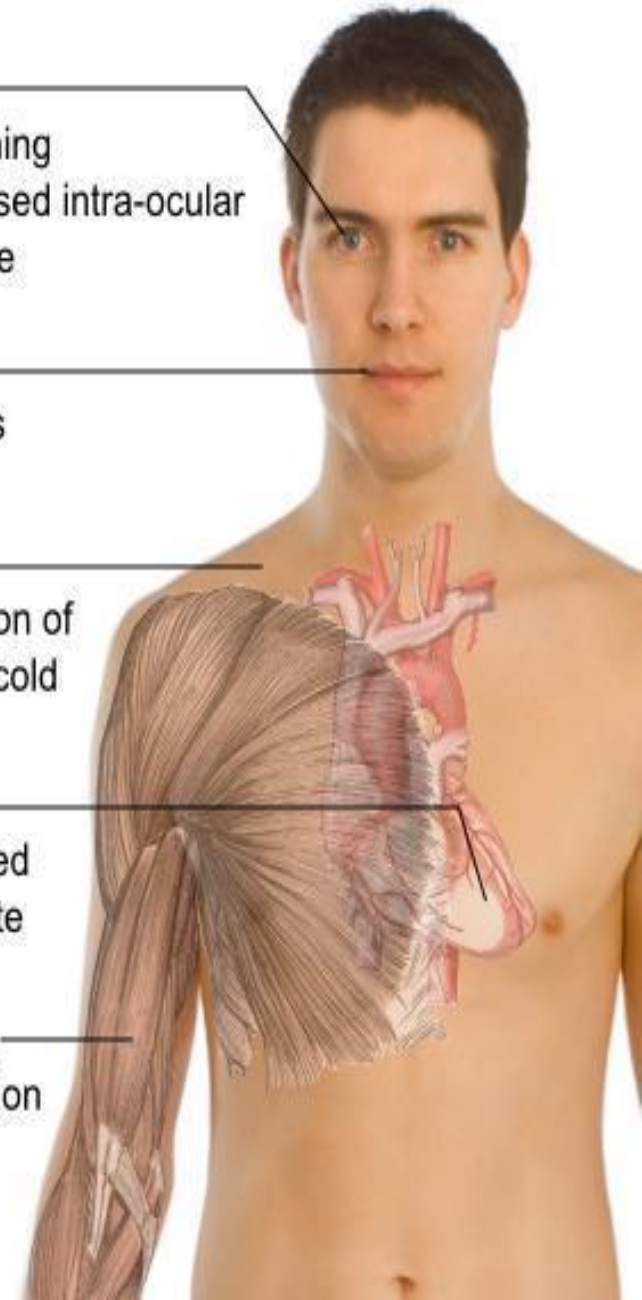
- Sensation of heat or cold

Heart:

- Increased heart rate

Muscles:

- Relaxation



Brain Structure	Regulates	THC Effect on User
Amygdala	emotions, fear, anxiety	panic/paranola
Basal Ganglia	planning/starting a movement	slowed reaction time
Brain Stem	information between brain and spinal column	antinausea effects
Cerebellum	motor coordination, balance	impaired coordination
Hippocampus	learning new information	impaired memory
Hypothalamus	eating, sexual behavior	increased appetite
Neocortex	complex thinking, feeling, and movement	altered thinking, judgment, and sensation
Nucleus Accumbens	motivation and reward	euphoria (feeling good)
Spinal Cord	transmission of information between body and brain	altered pain sensitivity

The brain structures illustrated above all contain high numbers of CB receptors

Tolerance and *psychological* dependence develop

Withdrawal symptoms

- Sleep disturbances
- Loss of appetite, irritability
- Tremors
- Depression or psychotic symptoms may become prominent



SOURCES OF OPIUM



Depressants: Narcotic/Opioid Prescription Drugs

Semi-Synthetic

Hydrocodone
& acetaminophen:



Vicodin®



Lortab®



Lorcet®

Hydromorphone:



Dilaudid®

Meridan:



Demeral®

Oxycodone:

& acetaminophen:



Percocet®

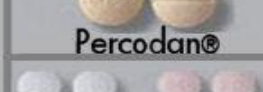


Tylox®

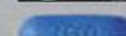
& aspirin



Percodan®



OxyContin®
(time-released oxycodone)



NATURAL

Codeine:



Morphine:



& acetaminophen



Tylenol® with codeine

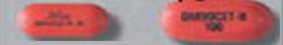


Floriset® with codeine

Synthetic
Methadone:



Propoxyphene
& acetaminophen:



Darvocet-N®



Darvon®

Buprenorphine:



Suboxone®

Fentanyl:

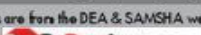


Patch



Pills

Lozenge (Lollipop)



Most pills are from the DEA & SAMSHA web-sites.

STOPRXDRUGABUSE.ORG

Heroin

Smack/H/Horse/Junk/Harry/White lady



NARCOTIC ANALGESICS

Pain killing or pain relieving drugs with opium like effects

Natural sources : Opium

- morphine
- codeine



Semi synthetic : Heroin (brown sugar)

Synthetic : Buprenorphine (tidigesic)

- Methadone
- Pentazocine



Mode of intake :

Opium – oral, inhalation

Morphine – injection

Codeine – oral (tablets and cough syrups)

Heroin – injection, inhalation, chasing

Buprenorphine – oral, injection



Modes of use



SHORT - TERM EFFECTS OF NARCOTIC ANALGESICS

- ◆ Euphoria
- ◆ Thought process impairment, drowsiness, apathy
- ◆ Freedom from pain
- ◆ Overdose of heroin can cause convulsions, coma and death

LONG-TERM EFFECTS

- ➔ Mood instability
 - ➔ Reduced libido
 - ➔ Constipation
 - ➔ Respiratory impairments
 - ➔ Physical deterioration
-
- ◆ Infections like serum hepatitis and HIV can occur among IV users
 - ◆ In female abusers, menstrual irregularity and fetal addiction / abnormality



Tolerance and dependence develop

Withdrawal symptoms

- Feeling of unpleasantness
- Severe pain
- Diarrhea
- Dilation of pupils
- Insomnia
- Hallucinations



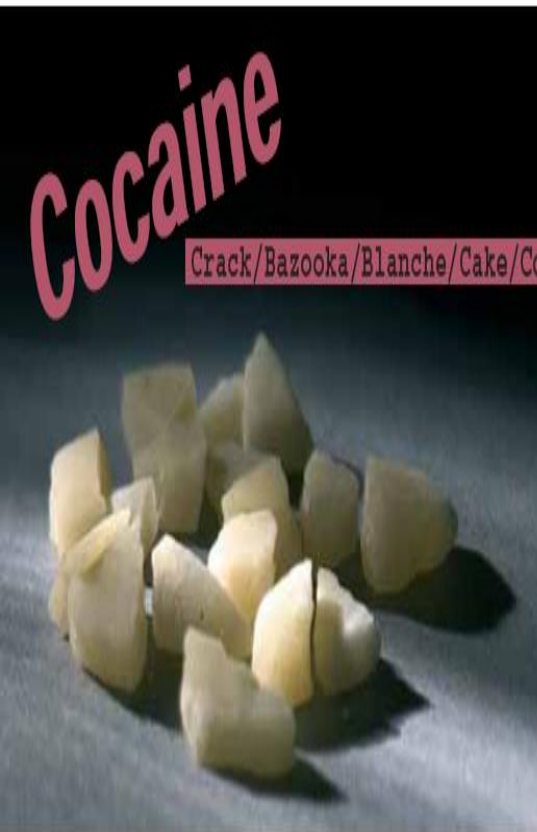
MACAULAY CULKIN 'HOME ALONE MOVIE STAR'



 befter.net



Stimulant Drugs.



Crack/Bazooka/Blanche/Cake/Coke/Lady



E/Snackies/New Yorkers

STIMULANTS

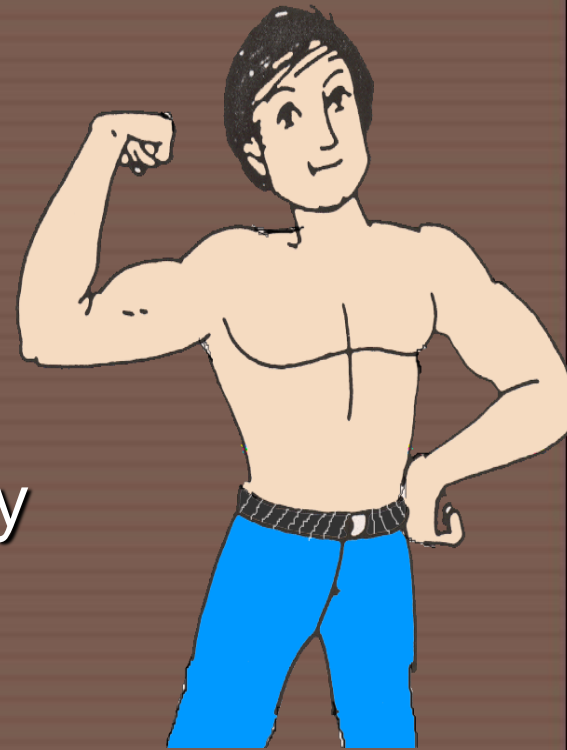
Drugs which excite or speed up the central nervous system

- Amphetamines
- Cocaine



SHORT-TERM EFFECTS OF STIMULANTS

- ◆ A heightened feeling of well being
- ◆ A sense of super-abundant energy
- ◆ Increased motor and speech activity
- ◆ Suppression of appetite
- ◆ Increased wakefulness



LONG-TERM EFFECTS

- Chronic sleep problem
- Poor appetite
- Rapid and irregular heart beat
- Mood swings
- `Amphetamine psychosis' may occur

Tolerance and dependence develop

Withdrawal symptoms

- ➔ No major physiological disruptions
 - ➔ Extreme fatigue
 - ➔ Disturbed sleep
 - ➔ Voracious appetite
 - ➔ Moderate to severe depression

DEPRESSANTS

Drugs which depress or slow down the functions of the central nervous system

◇ Sedative-hypnotics

- ➔ Barbiturates
- ➔ Benzodiazepines



◇ Alcohol

Barbiturates

(Depressant)

aka tranquilizers

Myth: Sodium pentothal (a barbiturate) is a "truth serum".
Truth: This drug lowers user's inhibitions & makes him more talkative

Withdrawal symptoms may range from minor to lethal & may get worse with time; brain may become dependent on barbiturates after only 1 month of use

Withdrawal symptoms:
- tremors
- difficulty sleeping
- agitation
- hallucinations
- high temperature
- seizures

Medicinal use:
- treat seizure disorders
- treat pain
- treat insomnia
- reduce anxiety

depressive effects of alcohol & barbiturates together leads can lead to death

has similar effects of alcohol

Methods of acquisition:
- legal prescriptions
- illegal prescriptions
- Internet orders
- steal from pharmacies
- drug dealers

Physiological effects on body:
- incoordination
- shallow breathing
- slowed/slurred speech
- sluggishness
- staggering

Psychological effects on brain:
- altered level of consciousness
- difficulty thinking
- poor judgment
- irritability
- memory loss
- changes in alertness

Effects depend on what barbiturate is used; may last only a few minutes or up to a couple of days

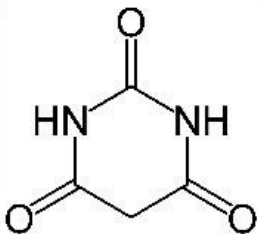
What are barbiturates?

drugs that depress central nervous system activity; reduces anxiety but impairs memory & judgment

Ways barbiturates are ingested:
- injected into veins or muscles
- taken in pill form

Street Names:
Yellow jackets
Reds
Blues
Amy's
Rainbows

Examples:
Nembutal
Seconal
Amytal



Barbituric acid = basic structure for all barbiturates



SHORT-TERM EFFECTS OF DEPRESSANTS

- ◆ Relief from anxiety and tension
- ◆ Euphoria
- ◆ Lowering of inhibitions
- ◆ Poor motor coordination
- ◆ Impaired concentration and judgement
- ◆ Slurred speech and blurred vision
- ◆ Sedation, sleep with larger doses



LONG-TERM EFFECTS OF DEPRESSANTS

- Depression
 - Chronic fatigue
 - Respiratory impairments
 - Impaired sexual function
 - Decreased attention span
 - Poor memory and judgement
 - Chronic sleep problems



Tolerance and dependence

- Tolerance does not develop uniformly
- Cross tolerance can develop
- Physical and psychological dependence develops

Withdrawal symptoms

- Insomnia
- Weakness and nausea
- Hallucinations
- Convulsions
- Delirium tremens

HALLUCINAGENS.



LSD

Acid/Hippie

D-Lysergic Acid Diethylamide



25 mg vial of 1951 Sandoz LSD (Delysid)

© 2006 Erowid.org



WAY LSD USED.



HALLUCINOGENS

Hallucinogens are drugs which affect perception, emotions and mental processes

- ➔ LSD (Lysergic acid diethylamide)
- ➔ PCP (Phencyclidine)
- ➔ Mescaline
- ➔ Psilocybin

SHORT-TERM EFFECTS OF HALLUCINOGENS

- ◆ Alterations of mood
- ◆ Distortion of the sense of direction, distance and time
- ◆ 'Pseudo' hallucinations
- ◆ Synesthesia – melding of two sensory modalities
- ◆ Feelings of depersonalisation

LONG-TERM EFFECTS

- Flash back or spontaneous recurrence of on LSD experience can occur
- Amotivational syndrome
- LSD precipitated psychosis

Tolerance and dependence

- Tolerance develops rapidly
- Withdrawal symptoms are not reported

Volatile solvents and Inhalants



Inhalant Effects

Inhalants produce
psychoactive

(mind-altering) effects...



Volatile solvents and Inhalants

- Volatile hydrocarbons like :-
- Paint thinner, glue, nail paint remover, Whitener , eraser etc.
- Petroleum Derivatives like:-
- Petrol ,spirit, spray, deodrant etc.

Research Report

S E R I E S

INHALANT *Abuse*

Although many parents are appropriately concerned about illicit drugs such as marijuana, cocaine, and LSD, they often ignore the dangers posed to their children from common household products that contain volatile solvents or aerosols. Products such as glues, nail polish remover, lighter fluid, spray paints, deodorant and hair sprays, whipped cream canisters, and cleaning fluids are widely available. Many young people inhale the vapors from these sources in search of quick intoxication without being aware of the serious health consequences that can result.

National surveys indicate that more than 22.9 million Americans have abused inhalants at least once in their lives. NIDA's *Monitoring the Future* study reveals that approximately 17.3 percent of eighth-graders have abused inhalants. Parents and children need to know that experimentation with these substances should not be taken lightly. Even a single session of repeated inhalant abuse can disrupt heart rhythms and cause death from cardiac arrest or lower oxygen levels enough to cause asphyxiation. Regular abuse of these substances can result in serious harm to vital organs including the brain, heart, kidneys, and liver.

Through scientific research, we have learned much about the nature and extent of inhalant abuse, its pharmacology, and its consequences. This research has brought the picture of inhalant abuse in our Nation into focus and pointed to the dangers and the warning signs for parents, educators, and clinicians. We hope this compilation of the latest scientific information will help alert readers to inhalant abuse and its harmful effects and aid efforts to deal with this problem effectively.

Nora D. Volkow, M.D.
Director
National Institute on Drug Abuse

What are inhalants?

Inhalants are volatile substances that produce chemical vapors that can be inhaled to induce a psychoactive, or mind-altering, effect. Although other abused substances can be inhaled, the term "inhalants" is used to describe a variety of substances whose main common characteristic is that they are rarely, if ever, taken by any route other than inhalation. This definition encompasses a broad range of chemicals found in hundreds

of different products that may have different pharmacological effects. As a result, precise categorization of inhalants is difficult. One classification system lists four general categories of inhalants—volatile solvents, aerosols, gases, and nitrites—based on the form in which they are often found in household, industrial, and medical products.

Volatile solvents are liquids that vaporize at room temperatures. They are found in a multitude of inexpensive, easily available products used for

common household and industrial purposes. These include paint thinners and removers, dry-cleaning fluids, degreasers, gasoline, glues, correction fluids, and felt-tip marker fluids.



HOW USED?



Harmful Effects of Inhalants

INHALANTS HARMFUL EFFECTS

NOSE BLEEDS
LOSS OF SMELL

SLURRED SPEECH

SUFFOCATION
SUDDEN DEATH

BONE MARROW
DEPRESSION

LIVER DAMAGE



PERMANENT
BRAIN DAMAGE
MEMORY LOSS

HEARING LOSS

IRREGULAR HEART BEAT
HEART ATTACK AND DEATH

MUSCLE WEAKNESS
AND CRAMPING

NAUSEA AND VOMITING

ABDOMINAL PAIN

INHALANTS

HARMFUL EFFECTS

PERMANENT
BRAIN DAMAGE
MEMORY LOSS

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LOSS

NOSE BLEEDS
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LIVER
DAMAGE

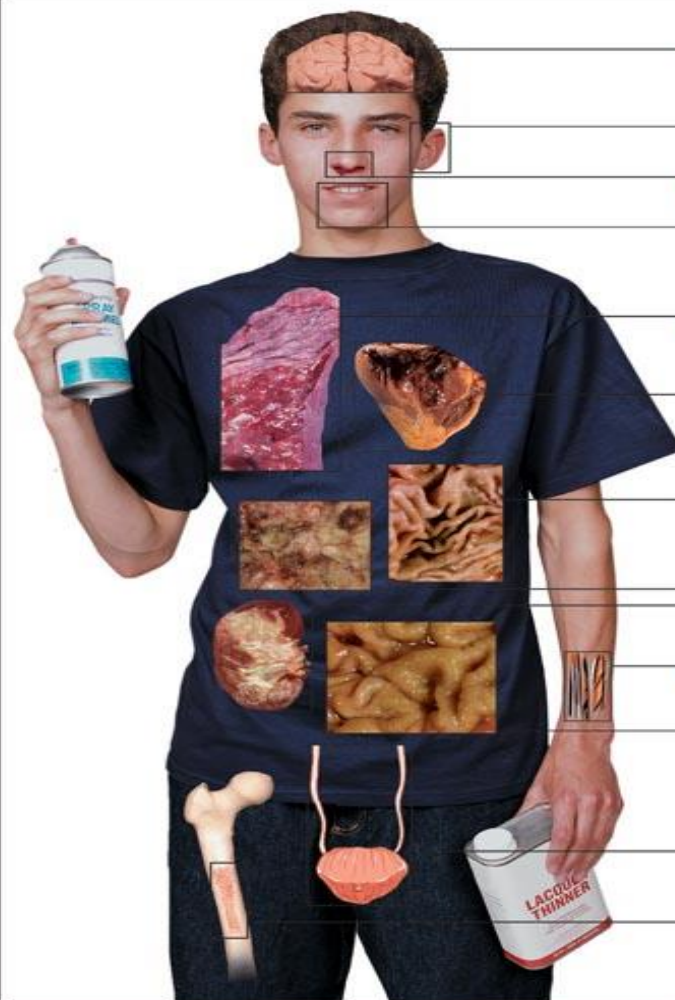
KIDNEY
DAMAGE

MUSCLE WEAKNESS
AND CRAMPING

ABDOMINAL
PAIN

INVOLUNTARY
PASSING OF
URINE & FECES

BONE MARROW
DEPRESSION

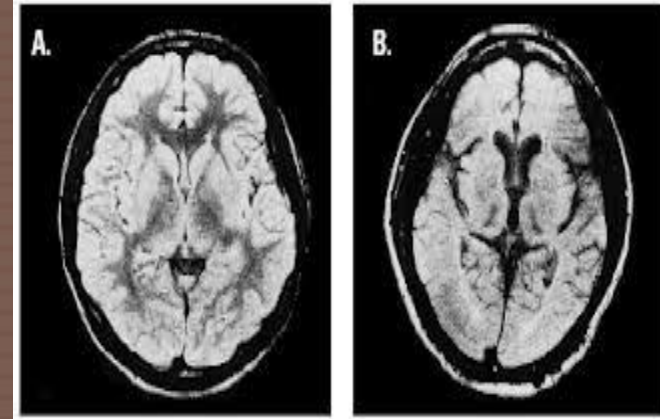


SHORT-TERM EFFECTS

- ◆ Euphoria
- ◆ Clouded thinking
- ◆ Slurred speech
- ◆ Staggering gait
- ◆ Hallucinations
- ◆ Sudden death

LONG-TERM EFFECTS

- ◆ Psychosis
- ◆ Permanent brain damage
- ◆ Liver, kidney and heart damage



OTHER DRUGS OF ABUSE

- ◆ Muscle relaxants
- ◆ Analgesics
- ◆ Anti-histamines
- ◆ Anti-emetics
- ◆ Anti-depressants / anti-psychotics

DAMAGE DUE TO ADDICTION

- ◆ Physical deterioration
- ◆ Psychiatric problems
- ◆ Intellectual impairment
- ◆ Personality deterioration
- ◆ Safety risks – accidents and high risk behaviour
- ◆ Legal risks



- Drug users come from all kinds of backgrounds.
- They are male and female, young and old, rich and poor, working and unemployed, from the city and the countryside—it does not matter. Drug use can affect anyone.

- Different drugs have different effects on the body.
- While effects vary from one person to the next.

THANK YOU



Do drugs control
YOUR LIFE?

**Your life. Your community.
No place for drugs.**



*You are too special to allow anything
to damage your body or your life!!*